



General Occurrence Reporting Training: DOE O 232.2A, *Occurrence Reporting and Processing of Operations Information*

Module 1

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ORPS Module 1 Training Introduction

Module Training 1 Objectives:

- To provide an overview of Department of Energy (DOE) Order (O) 232.2A, *Occurrence Reporting and Processing of Operations Information*, requirements and processes.

Audience:

- DOE federal and contract employees that are interested or involved in Occurrence Reporting and Processing System (ORPS) as part of their job function.



DOE O 232.2A Objectives

Order Objectives:

- To ensure that the DOE and National Nuclear Security Administration (NNSA) are informed about events that could adversely affect the health and safety of the public or the workers, the environment, DOE missions, or the credibility of the Department.
 - ✓ Complex-wide Notification
- To promote organizational learning consistent with DOE's Integrated Safety Management System goal of enhancing mission safety, and sharing effective practices to support continuous improvement and adaptation to change.
 - ✓ Encourage Learning Organizations



ORPS Roles and Responsibilities

Responsibilities are covered in DOE O 232.2A for the following:

- Secretarial Officers/Deputy Administrators (NNSA)
- Associate Under Secretary for Environment, Health, Safety and Security
- Office of Enterprise Assessments
- NNSA Associate Administrator of Emergency Operations
- Heads of Field Elements
- Facility Representatives or Designated DOE Representatives
- Facility Managers
- Contracting Officers
- Laboratory/M&O Contractors

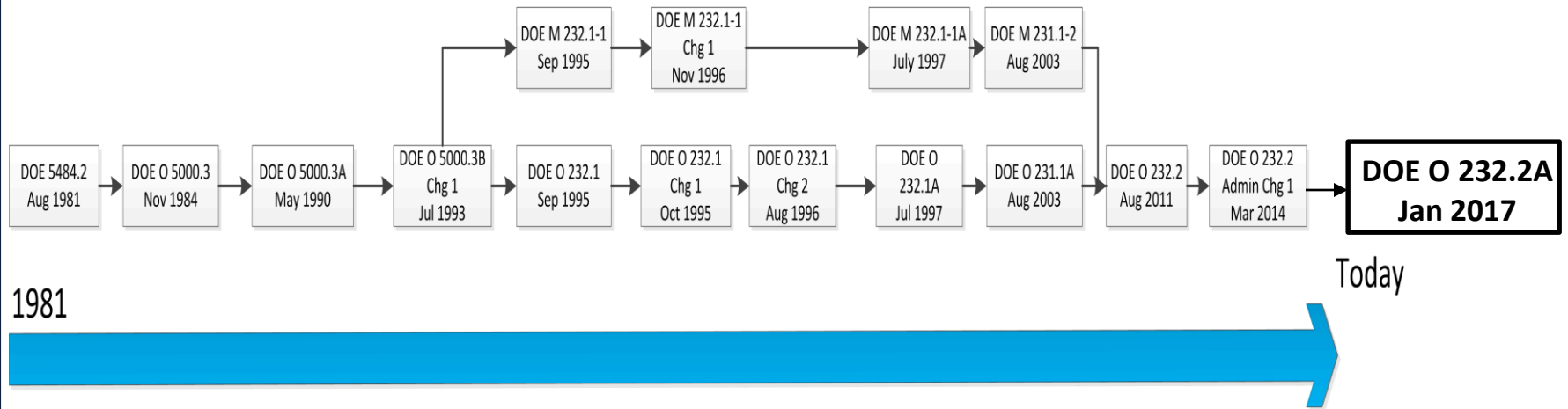


ORPS Database

- The ORPS Database is the backbone of DOE's occurrence reporting processes.
- Since its launch in 1990, ORPS has received over 72,000 occurrence reports (as of 8/1/2018).
- ORPS is accessible only to authorized users with Personal Identify Verification (PIV)/PIV-1 badges and a need-to-know.
- For general information on ORPS or to register for an account, please go to: <http://energy.gov/ehss/policy-guidance-reports/reporting/occurrence-reporting-and-processing-system>
- ORPS Training Modules 2 and 3 discuss ORPS Data Entry and Basic ORPS Searching in the ORPS Database.



ORPS History Timeline



DOE O 232.2A can be accessed at: <https://www.directives.doe.gov/directives-documents/200-series/0232.2-BOrder-A>



ORPS History

- The DOE-wide occurrence reporting requirements were introduced in 1990.
- There were revisions to the ORPS process in 1993, 1995, 1997, 2003, and 2011. However, none of these revisions fundamentally changed the model on which ORPS was based.
- The most significant changes occurred in 2003 and 2017.
 - In 2003, a Comprehensive Complex-wide “Back-fit Analysis” was performed to validate effectiveness of changes to the ORPS model. There was ~ 25% reduction in overall reporting achieved.
 - In 2016, the ORPS Order was one of two orders selected by DOE to undergo a new Pilot process to revise DOE orders with a diverse Integrated Project Team (IPT), comprised of federal and contractor employees holding leadership positions in the communities that they represent.
 - The ORPS IPT was directed to assess, revise, and deliver a revised order to the DOE Directives Review Board in 4 months (August 4 to December 9, 2016). The Order was signed and published January 17, 2017, and went into effect on October 1, 2017.



Terms and Definitions

- **OCCURRENCES:** Events or conditions that adversely affect, or may adversely affect, DOE (including NNSA) or contractor personnel, the public, property, the environment, or the DOE mission.
- **EVENT:** Something significant and real-time that happens (e.g., pipe break, valve failure, loss of power, environmental spill, earthquake, tornado, flood, injury).
- **CONDITION:** Any as-found state, whether or not resulting from an event, that may have adverse safety, health, quality assurance, operational or environmental implications. A condition is usually programmatic in nature; for example, errors in analysis or calculation; anomalies associated with design or performance; or items indicating a weakness in the management process.



Terms and Definitions continued

- **DISCOVERY:** The point at which knowledgeable facility staff discovered or became aware of the event or condition. Discovery date and time is NOT the date and time when the event or condition is determined to be reportable. The facility staff are those personnel assigned to the facility and cognizant of the area in which the event or condition is identified.
 - Scenario #1: Operator notices water puddle in the hallway and notes that this is unusual. He gets distracted with a task but remembers the puddle and informs Supervisor. Supervisor checks the puddle and realizes that there is a leak in a credited system. The time that Supervisor discovers that it is a credited system would be the discovery time.
 - Scenario #2: Transfer is taking place from Tank #1 to Tank #3. An operator noticed a drop in Tank #2 and informed Supervisor. After review, Supervisor notes the wrong tank is being drained. This would be the discovery time.



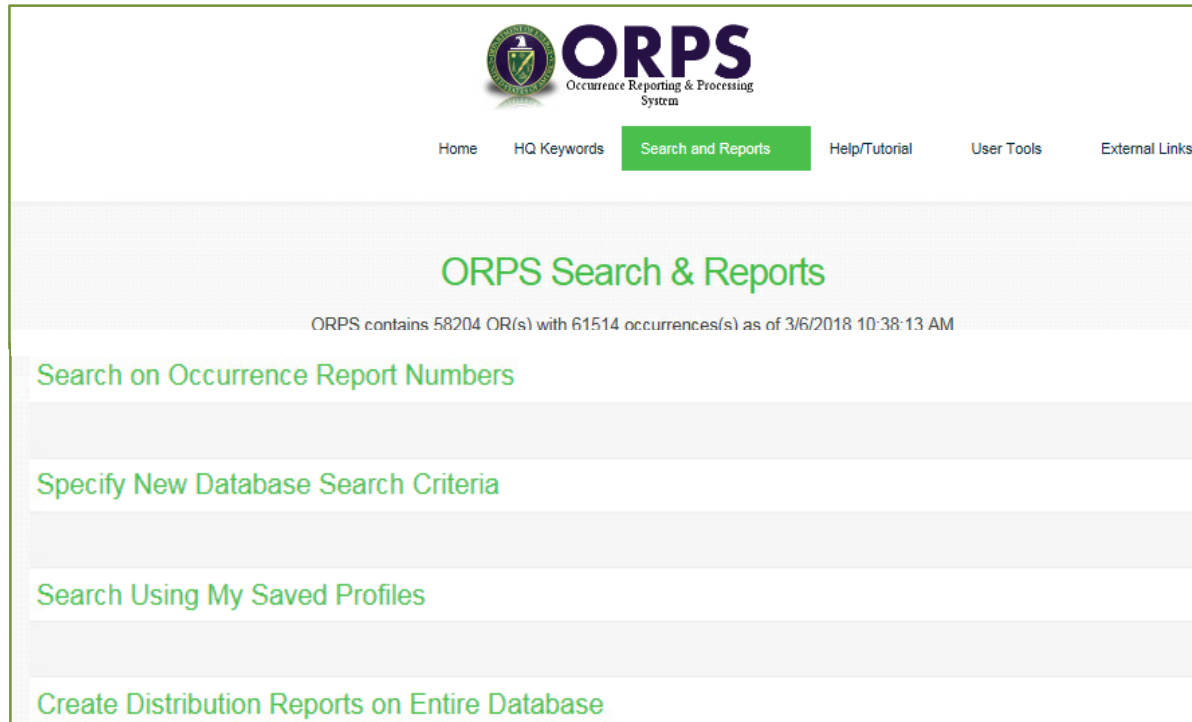
When Something Happens

- **CATEGORIZATION:**
 - Following discovery of an event or condition, and within 2 hours of discovery, determine if the event or condition meets the threshold for reporting into the ORPS database (DOE O 232.2A) and which reporting criteria applies.
- **INITIAL NOTIFICATION: Notify appropriate personnel within 2 hours of Categorization (for **High and Low Level Reports**)**
 - DOE/NNSA Facility Representative or Designated DOE Representative.
 - Other Contacts, i.e., Federal Counterparts, State or Local Authorities, etc.
- **INITIAL NOTIFICATION: Notify appropriate personnel by COB next business day (for **Informational Level Reports**)**
 - DOE/NNSA Facility Representative or Designated DOE Representative.
 - Other Contacts, i.e., Federal Counterparts, State or Local Authorities, etc.



What is the ORPS Database?

The ORPS database is a web-based graphical user interface (GUI) accessible only to authorized users with PIV/PIV-1 badges. ORPS Database link: <https://orps.doe.gov>



The database provides:

- storage and retrieval of occurrence report information for ORPS users and the DOE complex.
 - Description of reportable events and conditions including initiators, mode of discovery and immediate actions; if performed, causes, corrective actions and extent-of-condition.
- A wide range of inquiry capabilities and user-defined reports.



Example of an ORPS Report

EM-ID--FID-RWMC-2018-0001

NOTIFICATION

Occurrence Report After 2017 Redesign

Radioactive Waste Management Complex

(Name of Facility)

Nuclear Waste Operations/Disposal

(Facility Function)

Idaho Cleanup Project

Fluor Idaho, LLC

(Site)

(Contractor)

Name: Southwick, James

Telephone No.: (208) 533-0412

(Facility Manager/Designee)

Name: TWITCHELL, ERIC W

Telephone No.: (208) 533-0473

(Originator/Transmitter)

Name: Newsome, Gene; ADC

Date: 04/17/2018

(Authorized Classifier (AC))

Occurrence Report Number: EM-ID--FID-RWMC-2018-0001

ARP V Drum Over-pressurization Event

Report Type and Date: NOTIFICATION

	Date	Time
Notification:	04/17/2018	18:47 (ETZ)
Initial Update:		(ETZ)
Latest Update:		(ETZ)
Final:		(ETZ)

Report Level: H

Division or Project: RWMC/ARP

Secretarial Office: EM - Environmental Management

System, Bldg., or Equipment: ARP V (WMF-1617)

CUI?: No

Reviewed for Public Release:

Plant Area: ARP V



Example of an ORPS Report continued

Date and Time Discovered: 04/11/2018 22:35 (MTZ)

Date and Time Categorized: 04/12/2018 04:20 (MTZ)

DOE HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/11/2018	23:14 (MTZ)	Eric Larson	DOE ID
04/12/2018	04:20 (MTZ)	Eric Larson	DOE ID

Subject or Title of Occurrence:

ARP V Drum Over-pressurization Event

Reporting Criteria:

2C(1) - Any unplanned explosion that disrupts normal operations.

Description of Occurrence:

At approximately 2235 (10:35 PM) on April 11, 2018, in the Accelerated Retrieval Project (ARP) V (five) facility, WMF-1617, a repackaged sludge drum experienced an over-pressurization event, which ejected the drum lid off the drum. Over the course of the next five hours it was determined that approximately two additional drums experienced a similar drum failure.

Event Overview: At approximately 2235 (10:35 PM) on April 11, the INL Fire Department (INL FD) received a fire alarm from the ARP-V (five) facility, WMF-1617.

ARP-V is a ribbed tent type enclosure which is actively-ventilated with High Efficiency Particulate Air (HEPA) filtration systems. The facility's exhaust system is monitored for radioactivity by continuous air particulate monitors (CAM). The Sludge Repackaging Project (SRP) treatment process involves opening of waste containers using an excavator, removing or treating prohibited items within a sorting table by the excavator, loading waste onto trays, performing a certified visual examination within drum packaging stations (DPS), and then loading the waste into new vented 55-gallon drums.

The specific area where the event occurred, Airlock-5, also contains continuous air particulate monitoring systems. There were no workers in Airlock-5 at the time when the drums breached due to over-pressurization. The INL FD responded and initially entered ARP-V through the entrance air lock. Upon entry, the three fire fighters smelled smoke, backed out of the facility, donned self-contained breathing apparatus and re-entered the facility.

One drum was observed with its lid off; no flames were observed, but smoke was emanating from the drum's top. The firefighters applied Metal-X extinguishing media to the drum, which initially stopped the smoldering. The firefighters then began digital thermal scans of the drum and determined the drum's external temperature was once again rapidly increasing. A decision was made for the fire fighters to egress the area. The three firefighters then exited the facility at 0009 (nine minutes after midnight) on April 12, and doffed their turnout gear at the outside door to Airlock-5.

Upon doffing protective clothing, contamination surveys revealed all three firefighters were found to have low-levels of alpha radioactive contamination on their hands, etc. All three firefighters were taken to the Central Facilities Area (CFA) for decontamination at the Site decontamination facility; all three firefighters were successfully decontaminated and transported to the Radiological and Environmental Sciences Laboratory (RESL) in town for precautionary lung counts. Lung counts revealed no detectable radioactivity.



Example of an ORPS Report continued

At 1001 (1:01 AM), the INL FD observed conditions within ARP-V from the outside window, determined conditions as stable, released the facility back to the contractor, and returned to station. The event was terminated at 1035 (10:35 AM).

This issue will be managed in the Fluor Idaho LLC Issues Management System, TrackWise, under CAR# 119255.

A Formal Cause Analysis team was assembled consisting of a cause analyst, engineers, and chemists to ascertain the root causes and contributing causes to this event.

Is Subcontractor Involved? No

Immediate Actions Taken and Results: 1) All required notifications were made.

2) The Emergency Communications Center (ECC) and Emergency Operations Center (EOC) were activated as a precautionary measure as no Emergency Action Limit (EAL) was reached. Results -- Verified Emergency and Alarm Response (EAR) procedure actions (for fire and breach) were completed; verified (EAL) applicability.

3) Developed survey team plan and verified 100-meter boundary.

4) Verified operable ventilation.

Result-- No breach of facility, and no uncontrolled contaminants outside of facility.

5) Suspended shipments to Waste Isolation Pilot Plant (WIPP) and Nevada.

6) Preserved the scene and secured access to Subsurface Disposal Area (SDA) and all waste storage buildings.

7) Performed thermography and Volatile Organic Compound (VOC) sampling of all waste storage buildings at Accelerated Retrieval Project (ARP) and trailers at WMF-698 prior to allowing access.

8) Contacted Energy Solutions (Clive, Utah) and suspended treatment activities.

9) Entered Potential Inadequacy to the Safety Analysis (PISA) process.

10) Established 24-hour manning of facility including two hour fire watch.

11) Verified ventilation operability, Rad Con stack Continuous Air Monitor (CAM) monitoring, Volatile Organic Compound (VOC) monitoring, and radiological surveys on Accelerated Retrieval Project (ARP) -V perimeter.

12) Secured all SDA work.

13) Issued Long Term order for daily monitoring requirements at ARP.

14) RCRA remedial plan activated.

ISM:

2) Analyze the Hazards

Cause Code(s):

Description of Cause:

Corrective Actions

Local Tracking System Name: TrackWise Issues Management System

Lessons Learned:



Example of an ORPS Report continued

Similar Occurrence Report Numbers:

HQ Keyword(s):

01I--Inadequate Conduct of Operations - Safety System Actuation/Evacuation
03C--Fire Protection and Explosives Safety - Facility Fire
06C--Radiological - Skin Contamination
11A--Other - Chemical Reaction/Pressurized Drum
12F--EH Categories - Fire Protection
13A--Management Concerns - HQ Significant (High-lighted for Management attention)
14L--Quality Assurance - No QA Deficiency

HQ Summary:

On April 11, 2018, in the Accelerated Retrieval Project (ARP) V (Five) Facility, a repackaged sludge drum experienced an over-pressurization event, which ejected the drum lid off the drum. Over the course of the next five hours it was determined that approximately two additional drums experienced a similar drum failure. The Idaho National Laboratory Fire Department (INL FD) received a fire alarm from the ARP-V Facility. There were no workers in Airlock-5 at the time when the drums breached. The INL FD responded and entered ARP-V through the entrance air lock, the three fire fighters smelled smoke, backed out of the facility, donned self-contained breathing apparatus and re-entered the facility. One drum was observed with its lid off, no flames were observed, but smoke was emanating from the drum's top. The firefighters applied Metal-X extinguishing media to the drum. The firefighters then began digital thermal scans and determined the drum's external temperature was rapidly increasing, the fire fighters egressed the area. Upon doffing protective clothing, contamination surveys revealed all three firefighters were found to have low-levels of alpha radioactive contamination on their hands. All three firefighters were taken to the Central Facilities Area for decontamination; were successfully decontaminated and transported to the Radiological and Environmental Sciences Laboratory for precautionary lung counts, which revealed no detectable radioactivity.

Facility Representative or Designated DOE Representative:

Uploaded Documents:

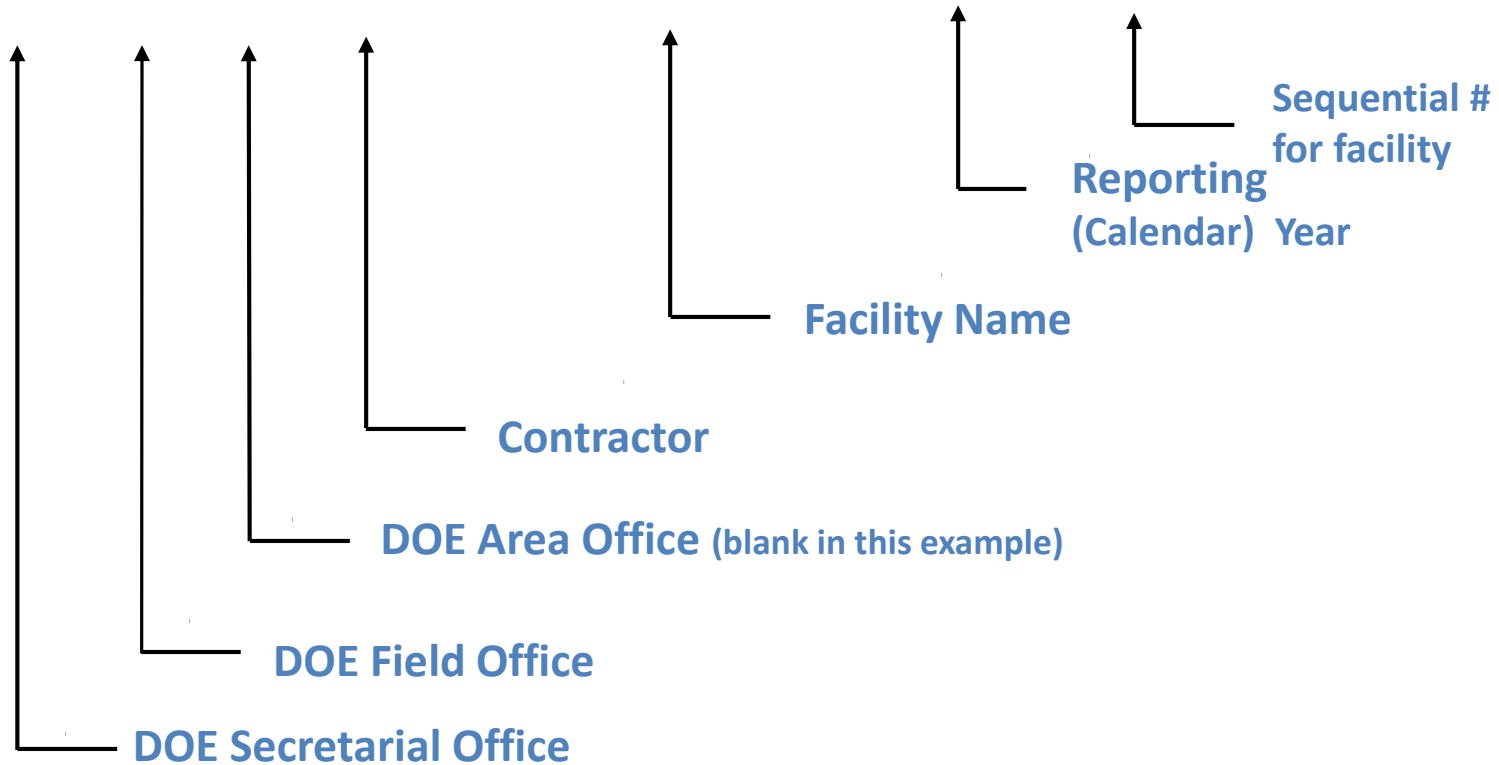
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Updated Report Information:



ORPS Report Identification- ORPS Report Numbering Explained

SC-ORO--ORNL-X10NUCLEAR-2018-000x





Required ORPS Report Components

No classified information or Controlled Unclassified Information is allowed in ORPS. Public Release is required for all final reports in the ORPS Database.

- ORPS Report Number – Identifier Number automatically entered by the ORPS Database.
- Subject/Title of Occurrence - A brief title or description that best details the nature, cause, and result of the occurrence.
- Report Levels – High (H), Low (L), & Informational (I). Reporting Levels provide a means to reflect perceived risk associated with a given occurrence. They take into consideration the potential consequence of an occurrence in terms of health, safety and security to personnel, the public, the environment, and the operational mission.
- Reporting Criteria – A set of requirements that must be used to identify reportable occurrences.
- Occurrence Description – Who, What, When, Where, and How of event or concern.
- Notifications – Date(s) and time(s) of organization(s) of the individual(s) notified. Includes notifications to DOE/HQ and state and local officials or other agencies.



Optional ORPS Report Components

(These fields will be completed per local procedures)

NOTE: For High Level reports, identified causes, corrective actions, and any extent of condition (if performed) must be included in the Final Report.

- Description of Cause – Identifies causes, and the causal analysis.
- Immediate Actions – Immediate or remedial actions taken to return the facility, system, or equipment item to service; to correct or alleviate the anomalous condition. These may include temporary measures to keep the facility in a safe standby condition or to permit continued operation.
- Corrective Actions – Description of the corrective actions that address identified causes.
- Lessons Learned – In accordance with DOE O 210.2A, *DOE Corporate Operating Experience Program*.



ORPS Types of Reports & Notification

- INITIAL NOTIFICATION – Notification to Facility Representative or Designated DOE Representative as required by the Report Level.
- WRITTEN NOTIFICATION – The initial ORPS report of an event or condition that meets a reporting criterion.
- UPDATE REPORT – Used to provide additional information during the course of the investigation.
- FINAL REPORT – Entered in the system based on Report Level. Timelines based on initial categorization of occurrence.
 - Notification/Final Low and Informational Level Reports must be submitted within 10 business days.
 - Final High Level Reports must be submitted within 60 calendar days.



ORPS Reports – Report Levels

- Report Levels are assigned to each Reporting Criteria. The Report Level provides a means to reflect perceived risk associated with a given occurrence.
 - Report Levels take into consideration the potential health, safety and security consequence of an occurrence to personnel, the public, the environment, and the operational mission.
 - Report Levels are High (H), Low (L), and Informational (I)



ORPS Reports – High Level Report

- High Level Report (H) Occurrences meet any of the following conditions:
 - Impacted worker or public safety and health, including significant personnel injuries, environmental harm, regulatory compliance, or public/business interests;
 - Constituted a noncompliance with regulatory requirements that created the potential for actual harm;
 - Posed the potential for mission interruption and require prompt mitigative action; or
 - Involved circumstances that reflected degraded safety necessitating prompt management attention along with modified normal operations to prevent an adverse effect on safe facility operations.
- EXAMPLES:
 - A fatality or terminal injury/illness.
 - Any unexpected or unintended personal contact (e.g., burn, shock, injury, etc.) with a hazardous energy source (e.g., live electrical power circuit, mechanical hazards, steam, pressurized gas, etc.).
 - A formal shutdown of an activity or operation for safety reasons by DOE or Contractor Senior Management.



ORPS Reports – High Level Report continued

All High Level Reports require the following:

- Final/Closure: Closure of reports in the ORPS Database.
 - Occurrences must be investigated and analyzed using a graded approach in accordance with local procedures.
 - Identified causes, corrective actions, and any extent of condition (if performed) must be included in the “Description of Cause” field.
 - Submitted within 60 calendar days after Initial Categorization.
- Require DOE Facility Representative OR Designated DOE Representative approval for final closure.
- Any lessons learned developed from the event must be entered in the “Lessons Learned” field.



ORPS Reports – Low Level Report

- Low Level Report (L) Occurrences may also involve personnel injury, environmental releases, equipment damage, or hazardous circumstances.
- EXAMPLES:
 - Any failure to follow a prescribed hazardous energy control process that results in potential worker exposure to uncontrolled hazardous energy OR any discovery of an uncontrolled hazardous energy source is a Low Level Report (Reporting Criteria 2D(2)).
 - Any unexpected or unintended personal contact with a hazardous energy source is a High Level Report (Reporting Criteria 2D(1)).
 - Identification of onsite personnel or clothing contamination (excluding anti contamination clothing provided by the site for radiological protection) that exceeds 10 times the total contamination values identified in 10 CFR 835 is a Low Level Report (Reporting Criteria 6D(3)).
 - Identification of offsite personnel or clothing contamination that exceeds 1 times the total contamination values identified in 10 CFR 835 is a High Level Report (Reporting Criteria 6D(2)).
 - Determination of a positive Unreviewed Safety Question (USQ).



ORPS Reports – Informational Level Report

- Informational Level Report (I)* Occurrences generally meet the following conditions:
 - Determined to be a safety, environmental, or mission concern; or
 - Provides potential learning opportunities for others.
- EXAMPLES:
 - Wildland Fire.
 - Near-Miss to an injury.
 - Any written notification from an outside regulatory agency that a site/facility is considered to be in noncompliance with a schedule or requirement.



* Informational Level Reporting can be tailored per Program Office direction to only be captured in local issues management systems.



Categorization Process

- Review available incident information
 - Compare information with Reporting Criteria (Attachment 2)
 - Identify reporting criteria if applicable,
 - more than one can apply.
 - the occurrence takes on the highest Report Level of the applicable criteria. (e.g., an unplanned fire and an injury occurs)
 - If the facts are not clear and the event is possibly reportable, make notification/categorization conservatively. The categorization can be downgraded or upgraded based upon new information.
- Notify DOE/NNSA Facility Representative or Designated DOE Representative.

NOTE: This is not a one time process. As information becomes available during the subsequent analysis, it should be periodically reviewed for additional applicability. If the Report Level of the event changes, an additional notification to DOE/NNSA must be made as appropriate.

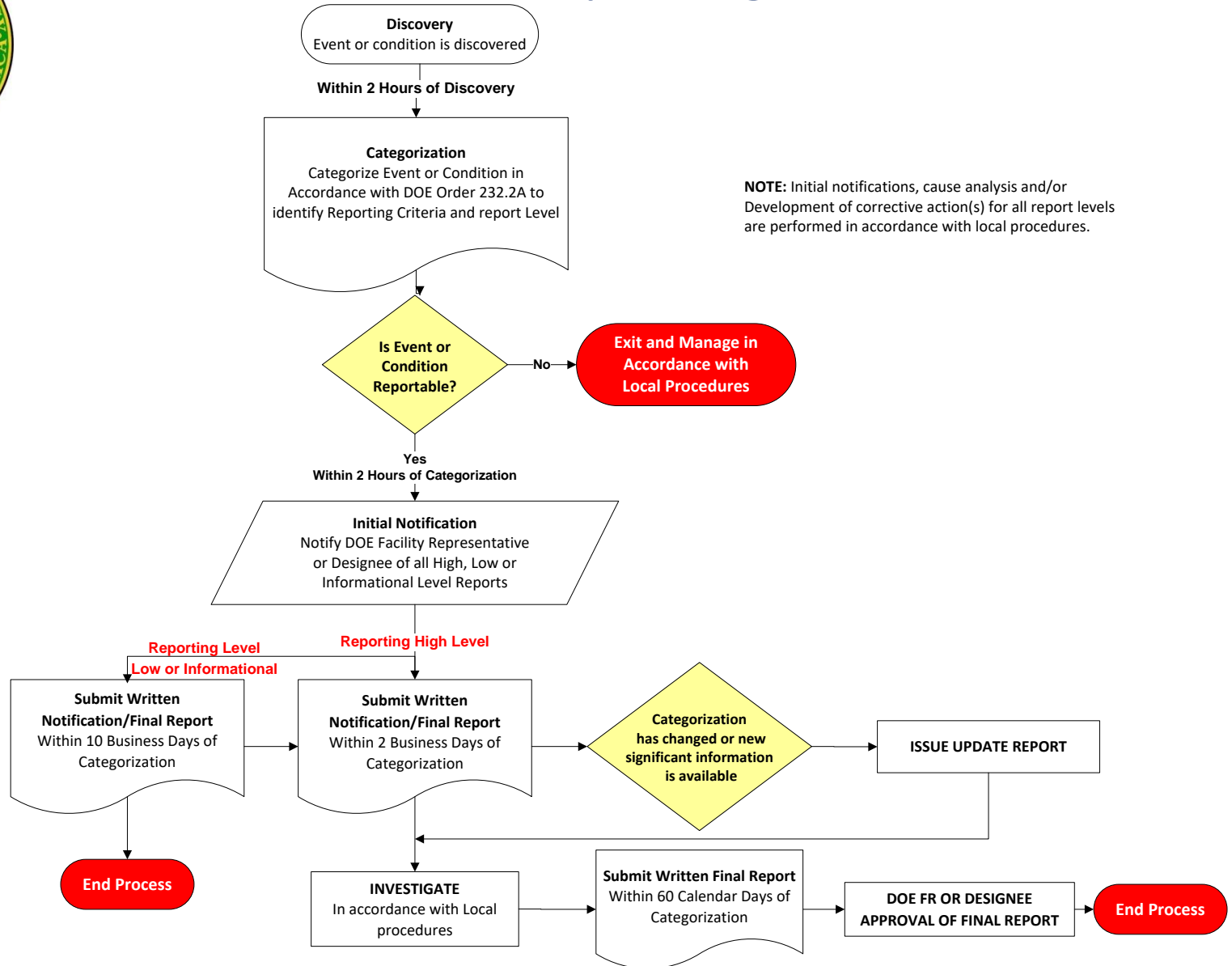


Occurrence Reporting Model

Report Level	Timelines	Initial Notification	Final Report Approval	Causal Analysis and Corrective Actions
High (H)	Categorize: 2 hours Initial Notification: 2 hours Written Notification: COB 2 business days Update/Final Report: COB 60 calendar days	To Facility Representative or Designated DOE Representative	By Facility Representative or Designated DOE Representative	Per local procedures Any identified causes and corrective actions must be included in the final report
Low (L)	Categorize: 2 hours Initial Notification: 2 hours Written Notification/Final Report: 10 business days	To Facility Representative or Designated DOE Representative	Per local procedures	Per local procedures
Informational (I)	Categorize: 2 hours Initial Notification: COB next business day Written Notification/Final Report: 10 business days	To Facility Representative or Designated DOE Representative	Per local procedures	Per local procedures



Occurrence Reporting Flowchart





DOE O 232.2A Reporting Criteria

Occurrences are categorized by reporting criteria. There are 10 groups of reporting criteria.

Group 1 - Operational Emergencies

Group 2 - Personnel Safety and Health

Group 3 - Nuclear Safety Basis

Group 4 - Facility Status

Group 5 - Environmental

Group 6 - Contamination/Radiation Control

Group 7 - Nuclear Explosive Safety

Group 8 - Packaging and Transportation

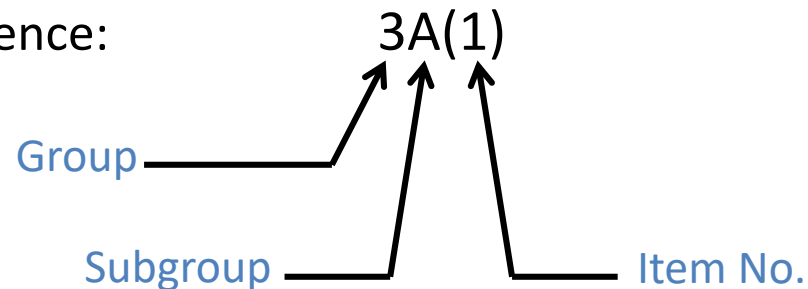
Group 9 - Noncompliance Notifications

Group 10 - Management Concerns and Issues



DOE O 232.2A Reporting Criteria continued

- Each criterion is denoted by its Group, Subgroup (if applicable), and item number (#). Thus, for example, the violation of a safety limit is denoted as Group 3, Subgroup A, Item No. (1) or —3A(1). An event can meet multiple reporting criteria that establish it as an occurrence.
- Criterion reference:





Reporting Criteria Group 1 – Operational Emergencies

This criteria is used if any Operational Emergencies are declared at your site. Declarations of Operational Emergencies should be entered into ORPS.

EXAMPLES:

A fatality on site.

A fire burning adjacent to a power substation.

A suspicious package found and security measures needed.





Reporting Criteria Group 2 – Personnel Safety and Health

Subgroup A- Occupational Injuries & Exposure

Group 2A criteria is used for Occupational Injuries &/or Exposures. These categorizations might require Medical, Safety, or Industrial Hygiene Professionals input for determination. Remember additional criteria can apply.

Example: Employee slips & falls due to black ice. They are medically diagnosed with a fractured ankle that requires surgery and a possible concussion. This would be reported as 2A(5) and potentially 2A(3) depending on the time in the hospital.



Subgroup B - Fires

Example: Any fire that develops under a hot work permitting process that becomes extinguished by other than the fire watch should be reported into ORPS as this type of fire incident is not fully anticipated.



Subgroup C - Explosions

Use of this criteria that could also result in reporting of additional criteria may apply. Remember that explosions can result from ignition events involving energetic materials, a pressurization event, or a chemical reaction.





Reporting Criteria Group 2 – Personnel Safety and Health continued

Subgroup D - Hazardous Energy

Examples: Unexpected or unintended personal contact (burn, shock, injury, etc.) OR failure to follow LOTO OR discovery of uncontrolled source. These can range from an arc flash Incident with or without injuries to a mechanical or electrical lockout/tagout violation.



2015 LANL Electrical Arc





Reporting Criteria Group 3 – Nuclear Safety Basis

Group 3 criteria regard compliance with specific requirements in a nuclear facility's safety documentation, or deficiencies in the associated analysis, and may require your Safety Basis or Nuclear Criticality Professional's input for determinations. For example, discovery of a quantity of material exceeding a Hazard Category 3 quantity in a facility that is designated as Hazard Category 3.

Subgroup A- Technical Safety Requirement and Other Hazard Control Violations (excluding nuclear criticality)

Examples include: any TSR violation, work control documents not implementing safety basis controls, and operating procedure not fully addressing all the surveillance inspection requirements.



Subgroup B- Documented Safety Analysis

Examples include:

Positive Unreviewed Safety Questions (USQs).

Identification of a radioactive material inventory that causes a nuclear facility to exceed its current approved/authorized Hazard Category.



Subgroup C- Nuclear Criticality Safety Control Violations

Example: Noncompliance with requirements of a posted criticality safety plan.



Reporting Criteria Group 4 – Facility Status

Subgroup A- Safety Structure/System/Component Degradation (Nuclear Facilities)

Performance degradation of any SC/SS SSC.

See “Notes” in DOE O 232.2A

Subgroup B- Operations

Examples include: formal shutdowns of activities or operations for safety reasons, unsafe conditions activating SSCs (including SCRAMs), and operational events having an adverse impact on safety (for example: loss of power or utilities).

Subgroup C- Suspect/Counterfeit and Defective Items or Material

Examples include: suspect/counterfeit and defective items found installed in an application like bolts, fasteners, or any type of equipment.



Counterfeit Shackles
marked “CHINA”



Reporting Criteria Group 5 – Environmental

Subgroup A- Releases

Examples include: releases of hazardous substances or pollutants or any exceedances of oil or sulfur hexafluoride.

See “Notes” in DOE O 232.2A



Subgroup B- Ecological and Cultural Resources

Examples include: releases causing impact to ecologically preserved areas, habitats, historical sites, or environmental damage (e.g., fish kill).





Reporting Criteria Group 6 – Contamination/Radiation Control

Categorizations will require your Radiological Control Professional's input for determination.

Subgroup A- Loss of Control of Radioactive Materials

Examples include: identification of rad material offsite, loss of rad material exceeding values in 10 CFR Part 835.

See "Notes" in DOE O 232.2A

Subgroup B- Spread of Radioactive Contamination

Examples include: identification of offsite or onsite rad contamination.

See "Notes" in DOE O 232.2A



Subgroup C- Radiation Exposure

Examples include: occupational doses, failure to provide the required monitoring for an exposure, and radiological releases.

Subgroup D- Personnel Contamination

Examples include: contaminated personnel or contaminated clothing.





Reporting Criteria Group 7 – Nuclear Explosive Safety

Examples include:

Damage to a nuclear explosive.

Unauthorized actions regarding a nuclear explosive.

Process violations with regard to a nuclear explosive (e.g., the Two-Person Concept of operations).





Reporting Criteria Group 8 – Packaging and Transportation

Group 8 criteria categorizations might require your Transportation Professional's input for determination.

Examples include: offsite transportation event involving hazardous materials, events requiring reporting to the Nuclear Regulatory Commission, and violations of Hazardous Materials Regulations requirements.





Reporting Criteria Group 9 – Noncompliance Notifications

Examples include:

Notice of Violation.

Warning Letter.

Administrative Order or Notice of Noncompliance from either your State or Local Environmental Agency.

This criterion is not applicable to DOE Office of Enforcement actions.





Reporting Criteria Group 10 – Management Concerns and Issues

10(1) Management Concerns

An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.

10(2) Near Misses

A near miss to an injury, where something physically happened that was unexpected or unintended AND where no barrier prevented an event from having a reportable consequence (i.e., happenstance was the main reason the event did not result in a reportable injury).

Examples:

- Worker struck (or narrowly missed) by moving object but not injured. Had object struck employee (or struck them differently) it could have caused reportable injury.
- Worker approaches within hazardous proximity to an active hazard for which they are not protected. Contact with hazard could cause reportable injury. Due to luck they avoid the hazard.

10(3) Any occurrence that may result in a significant concern by affected state, tribal, or local officials, press, or general population; that could damage the credibility of the Department; or that may result in inquiries to Headquarters.



Case Study 1

- An operator experienced a mild shock to the right thumb while plugging in an electrical fan. The operator immediately reported the incident to management. The employee was evaluated by the site nurse and returned to work. A frayed cord on the fan was discovered and the fan was removed from service.
- Which ORPS reporting criteria does this event meet?
- Answer: 2D(1)



Case Study 2

- During the daily turnover, an operator smelled smoke in the trailer. After further investigation, the operator noted smoke and a flame emitting around an electrical panel door. When the emergency responders arrived a few minutes later, the fire had activated the sprinkler system. A CO2 fire extinguisher was used to cool the panel and the panel was de-energized and tagged-out.
- Which ORPS reporting criteria does this event meet?
- Answer: 2B(2)



Case Study 3

- A large grass fire was reported approximately 3 miles east of the plant. WIPP Fire Department personnel dispatched 2 units to the location. Wind speeds were sustained at 25.3 mph with gusts to 32.7 mph. The wind direction was pushing fire and smoke towards the WIPP facility. Carlsbad, Hobbs, BLM and local volunteer Fire Departments were dispatched to assist the WIPP Fire Department. The FSM declared an Operational Emergency-Not Needing Further Classification and directed an immediate site wide evacuation. The fire was contained within 2 hours. The fire traveled within 300 yards of the WIPP facility. Two WIPP fire fighters sustained second degree burns over 10 percent of their bodies and transported to the hospital for treatment. No building/ equipment damage has been identified at the facility.
- Which ORPS reporting criteria does this event meet?
- Answer: 1(1), 2A(5), 2B(4), 10(3)



ORPS Final Reports

- ORPS Final Reports are publicly available. **No classified information or Controlled Unclassified Information is allowed in ORPS.**
- Available at <http://energy.gov/ehss/policy-guidance-reports/dashboards>
- Contents of the Public ORPS Dashboard –
 - Contains reports from 2005 to present
 - Data is updated daily
 - Information is displayed in tables and graphs
 - Searchable by reporting organization and event-oriented keywords
 - Full occurrence report can be viewed and printed



Publicly Available Occurrence Reporting and Processing System Dashboard

By Organization | By Keyword



U.S. DEPARTMENT OF ENERGY Occurrence Reporting and Processing System

Final Report Data Published as of: 3/16/2017 11:54:48 AM

[Tutorial](#)

Select Year

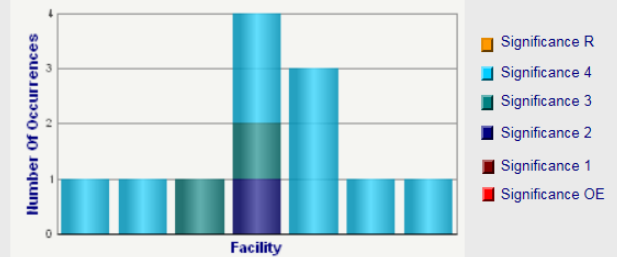
Program Office:

Year: 2017

Site	Occurrences
Argonne National Laboratory East	1
Brookhaven National Laboratory	2
Carlsbad Field Office	3
East Tennessee Technology Park	1
Hanford Site	12
Idaho Cleanup Project	2
Idaho National Laboratory	1
Idaho National Laboratory	10
Kansas City Plant	1
Lawrence Berkeley National Laboratory	1
Lawrence Livermore National Lab	3
Los Alamos National Laboratory	8
National Energy Technology Laboratory	2

Click on the Site Name to select and view Facility Chart to the right

Hanford Site



Select a Facility to see Occurrence Reports in the table below
Note: Problem with Y-Axis for values 4 and less to be corrected

Report Number	Subject
EM-RL-CPRC-ERDF-2017-0001	CHPRC Radioactive Shipment Record Did Not Accompany Super Dump Truck During Off-Site Shipment.

Click on the Report Number to view detailed information to the right

Year: 2017 Significance: {Significar
Program Office: Environmental Management
Site: Hanford Site
Contractor: CH2MHILL Plateau Remediation Company
Facility: Env.Restoration Disposal Facility
EM-RL-CPRC-ERDF-2017-0001
Keyword: Shipping QA
Subject: [CHPRC Radioactive Shipment Record Did Not Accompany Super Dump Truck During Off-Site Shipment.](#)

Click on the Subject to view the complete Final Occurrence Report

Please send comments or questions to orpsupport@hq.doe.gov



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Select Year **2017** 2016 2015 2014 2013 2012 2011 2010 2009 20

Keywords	Count
Authorization Basis	7
Conduct of Operations	16
Electrical Safety	6
Environmental	9
Releases/Compliance	9
Equipment Degradation/Failure	17
Fire Protection	3
Industrial Operations	4
Injuries Requiring Medical Treatment Other Than First Aid	8
Lockout/Tagout (Electrical or Mechanical)	10
Near Miss (Could have been a serious injury or fatality)	5
OS/IH	4
Other than above	1
Radiological Control (Other)	5
Radiological Skin Contaminations/Uptakes/Overex	3
Shipping QA	2
Suspect/Counterfeit Items - Defective Items	4
Vehicle Accident	1
Total	105

Site	Count
Brookhaven National Laboratory	2
Carlsbad Field Office	1
Hanford Site	1
Lawrence Berkeley National Laboratory	1
Los Alamos National Laboratory	2
Oak Ridge National Laboratory	1
Portsmouth Gaseous Diffusion Plant	1
West Valley Site	1
Total	10

Report Number	Subject
NA--LASO-LANL-TA55-2017-0001	Failure to Follow a Prescribed Hazardous Energy Control Program: Incorrect Equipment Locked Out
NA--LASO-LANL-TA55-2017-0002	120 Volt Wall Receptacle Damaged During Construction Activities was Taped Over and not Immediately Controlled

Year: 2017 Significance: {Significan

Program Office: National Nuclear Security Administration

Site: Los Alamos National Laboratory

Contractor: Los Alamos National Laboratory

Facility: Plutonium Proc & Handling Fac

Report Number: NA--LASO-LANL-TA55-2017-0001

Keyword: Lockout/Tagout (Electrical or Mechanical)

Subject: [Failure to Follow a Prescribed Hazardous Energy Control Program: Incorrect Equipment Locked Out](#)

Click on the Subject to view the complete Final Occurrence Report

<https://data.doe.gov/asp/Main.aspx?evt=3010&src=Main.aspx.3010>

Please send comments or questions to orpssupport@hq.doe.gov



More ORPS Resources

- **Daily ORPS Summary email** containing new ORPS Notifications and Final Reports - sent to DOE feds and contractors on distribution.
 - To request receiving the daily email, email Ashley.Ruocco@hq.doe.gov.
- **Daily Occurrence Report** access: <https://energy.gov/ehss/daily-occurrence-reports>
- **EFCOG's ORPS Task Group** is a subgroup of the Integrated Safety Management & Quality Assurance Working Group that provides an organized forum to share information and lessons learned on how sites manage their respective ORPS programs, and to gain program guidance from DOE Headquarters regarding ORPS requirements and implementation, to foster continuous improvement in safety that supports achievement of mission success. <http://efcog.org/>



Questions/Comments

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